Why we Recommended the CRL for Use at ILCTA

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The Committee and the Web Site

Name	Affiliation
Gysin, Suzanne	FNAL CD/AMR
Harms, Elvin	FNAL AD/A0 Photo Injector
Kissel, Wally	FNAL AD/Operations
Kutschke, Rob (chair)	FNAL CD/CEPA
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Saunders, Claude	ANL
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URL: http://cd-amr.fnal.gov/ilc/LogbookEvaluation/LogbookEvaluation.htm

This site has final report, minutes of meetings, URLs to demos, material submitted to committee, material generated by committee and so on.

Jargon

- Logbook:
  - Entries may not be edited/removed.
    - Enforced by the software not by user convention.
  - Entries may be annotated.
- Notebook:
  - Entries may be edited. Old versions are retained.
  - Typical use is “analysis notebook”.
- Not sure how widespread this usage is.

Summary of Charge

- Shekhar Mishra wanted to view all ILC Test Area (ILCTA) activities at Fermilab from a single entry point.
  - No resources to start from scratch. Choose existing product.
  - Must be running in 2 months; may add some features later.
  - Full product must have a lifetime ≥10 years.
- Streth goal: allow him to have a view of all ILCTA activity in the US? In the world?
  - Did not have the representation/authority to address this.
  - We did consider using a DESY hosted product and act
    - Management was not interested in the politics of this.
- Single product as both elog + notebook?
  - No good candidates found.
  - Our mandate reduced to just elog.

The Candidates

- **The Control Room Logbook (CRL):** FNAL CD. Used for about 5 years. Now used by D0, DES, MINOS, MIPP, MiniBoone, CMS ..
- **Technical Division Weblog (Weblog):** developed about a year ago and is used within technical division.
- **Accelerator Division Elog (AD ELog):** Aka MCR log. This product has a very strong user base and has been around for a long time.
- **JLAB logbook as ported to SLAC (JLAB):** This elog has been deployed at several locations at SLAC for about 2.5 years. Longer history at JLAB.
- **DESY TTF elog :** The workhorse of DESY elogs for about 5 hears, 15 logbooks some with 80K entries.
- **DESY IHEP elog:** evolution of TTF with a DB instead of XML files.
- **SNS elog:** The workhorse elog at SNS.
- **PSI logbook:** This product was used at MINOS for a while but it's use is declining due to support problems.
- **KBook (previously known as HepBook):** This is a notebook but could configure some threads to be non-editable (but still commentable).

Methodology

- Detailed questionnaires on architecture (ILC-doc-292) and user features (ILC-doc-283).
  - Committee spoke with authors, users and used demos.
- Develop a list of requirements.
- Examination of questionnaires reduced the pool quickly.
- Did not develop bottoms up use-case driven requirements.
  - Most of this work would have been wasted since it would have gone to rediscovering features that were common to all products.
  - Results of questionnaires reinforced this.

TradeOffs

- Ease of data entry and fast learning curve are important to get buy in.
  - No login. Sign entries with initials.
  - Type names of devices by hand.
- Robustness of the data:
  - Login. Use login name to sign entries
    - May allow browsing without logging in.
  - Pick device names from form/menu.
  - Very important if you want to search on data that is older than a few days.

Requirements

- Usual elog features:
  - Easy to use text entry GUI, programmatic entries, attach files, inline attached figures, annotate entries, view entries by shift, searches, links between entries …
- Architecture likely to survive 10+ years.
- Architecture makes it easy enough to maintain and develop the product.
- User authentication now and modern, secure authentication soon.
- Source code available.
- Usable with only a normal web browser.
- Entries must be permanent (audit trail).
- Complex searches involving both metadata and entry text (search of attachments would be good too).

Questionnaire Results

- Two out of the running immediately:
  - KBook: immature, uncertain $ and access to source.
  - PSI: technical problems encountered by MINOS.
- None of the products from outside the lab is so much better than the 3 FNAL products that it makes sense to support yet another elog at FNAL..
  - Lab must continue to support existing products so a fourth elog requires new effort not a redeployment of existing effort.
  - Reject all non-Fermi products here.
  - Otherwise JLAB product passed our criteria.
- AD elog rejected:
  - Old technology. Hard to add some missing features.
  - Despite strong fan-base and cool mouse over for figures.
- Detailed reasons given in our report.

Final Choice: Weblog vs CRL

- Have all features we are looking for or have an obvious upgrade path to these features.
  - No sense in adding upgrades to both products.
- Weblog only used by a small group in TD but CRL widely used and upgrades would benefit more people at the lab.
- CD does provide 24/7 server support for some current CRL users.
- A smaller point: CRL forms are a natural way to allow customized entries for different groups, while leaving main text entry page unchanged. Analog does not exist in Weblog – the device customization is all on the main page.
- Recommend that ILCTA choose CRL.

Planned Upgrades to CRL

- Major features:
  - Security (PKI/Kerberos/SSL).
  - Indexing of entry text for word searching (Lucene).
  - Quicker and easier deployment.
  - Allow images in annotations.
- Minor features:
  - Background color and font size options.
  - Support thumbnails from more image formats (TIFF).
  - Allow attached images for entries created via the automated entry mechanism, the Process Logger.

If Minerva Choose CRL

- CRL is now supported by CD
  - Not true 6 months ago.
  - CD can install the software for you.
    - You will need to supply an administrator to create accounts, create new topics, and design forms.
    - CD will provide training for this.
  - Ongoing upgrades planned. Open to suggestions and would accept contributions.
  - You can negotiate space on a CD server or space for your server in a CD machine room.
    - Controlled environment and generator backup power.
- CD Contacts:
  - Suzanne Gysin and Mark Kaletka.
  - Suzanne will be at CERN a lot. So contact her next week.
- If you choose the JLAB product, CD will not offer support.

Backup Slides

Recommendations to ILCTA

- We recommend that ILCTA choose the CRL.
  - None of the outside FNAL products are so good that it makes sense to start a 4th logbook project at the lab.
  - CRL vs Weblog:
    - Could ask for 24/7 server support from CD.
    - Synergy with other groups at lab.
    - Forms are very powerful.
  - You need to work with CD to understand who supports what. Some administrator functions should be done by your project people.
- What about remote use of TTF elog?
  - I think that blazing the trail is the only good reason to do this.
    - How important is that, compared to the cons? Need feedback.
  - We can't recommend this yet.
    - It's risky and there is a good chance that further work on it would be wasted.

What an Elog is Not

1. A main data store.
2. A data catalog.
3. A document management system.
4. A slow controls data repository.
5. A system to manage construction travelers.
6. An analysis notebook.

- Can fake these functions with an Elog for a small, short term project.
- A really bad idea for a big or long term project.
  - First 4 functions typically require programmatic data extraction.

Viewing the Whole World

- Two classes of solutions:
  - Central server accepts entries from all locations.
    - Could be realized with existing tools if the political will is there.
    - Political will is not there (yet?).
  - Separate servers at each location. "Portal" knows how to break a single query into many and combine results.
    - This is a really big project, far beyond our scope.
    - A limited version of this does exist at DESY but it would be hard to maintain this as remote elogs evolve.
    - Authentication and authorization likely to be difficult and constantly changing.
    - GRID people are into portals but their focus is job control.

Quick Review of Products

- KBook:
  - Really a notebook. Glitches seen in demo.
  - May not have access to source code.
  - May cost real $.
  - Rejected.
- PSI:
  - MINOS liked it but they tried to make some changes and the server now hangs frequently. Archaic architecture is blamed for the difficulty in finding the problem.
  - Rejected.

Quick Review (2)

- SNS
  - Uses a proprietary component, Apple WebObjects, that requires a run time license and for which we would not get source. Will WebObjects be around in 10 years?
  - Otherwise looks very good.
  - Rejected.
- JLAB Elog
  - Generally very good with some unique features.
  - But not good enough to make it a 4th FNAL product.
  - Rejected.

Quick Review (3)

- DESY-IHEP
  - Lots of very cool features.
  - But entries are editable and deletable.
  - 100% servelet based, which makes for harder maintenance than some other products.
  - Rejected.
- DESY TTF
  - Robust and full featured.
  - Not good enough to become the 4th FNAL elog.
  - They have experience accepting entries from CERN.
    - Could we use it remotely? More later.

Quick Review (4)

- AD Elog
  - Strong fan base at FNAL, easy to make entries.
  - I love the mouse-over for images.
  - Entries must be signed by hand.
  - Weak search facility.
  - Poor granularity of data.
    - Hard to start with this and migrate to a newer product at a later date.
  - Rejected.

Quick Review (5)

- TD Weblog and CRL
  - Full featured.
  - Author name from login (CRL) or pull-down menu (Weblog).
  - Device names selected from pull-down menus (Weblog) or forms with pull-down menus (CRL).
  - Good granularity of data.
  - Searches of entry text are not indexed.
  - Logins are not fully secure.
  - Both above threshold for our purposes.
  - Both could accept entries from Cornell or JLAB if those places buy in.